

AMENDMENTS TO THE CLAIMS

1. (Cancelled)
2. (Currently Amended) ~~In a device An apparatus~~ for minimally invasive applications, the improvement comprising:

a first unit comprising a first structure for at least positioning and bending a portion of said device apparatus, said first structure including a quantity of shape memory alloy in said portion and a quantity of shape memory polymer in said portion,  
said shape memory alloy having a longitudinally extending coiled configuration in said portion with more than one wrap, and  
said shape memory polymer comprising a cylinder, wherein said portion is positioned in said device first unit such that changes in transition of said shape memory alloy causes said device first unit to bend change position; and

a second unit connected to said first unit, said second unit comprising a second structure for at least positioning said apparatus, said second structure including  
a second quantity of shape memory alloy and  
a second quantity of shape memory polymer,  
said second quantity of shape memory alloy having a longitudinally extending coiled configuration with more than one wrap, and  
said second quantity of shape memory polymer comprising a cylinder,  
wherein said portion is positioned in said second unit such that changes in transition of said shape memory alloy causes said second unit to change position thereby moving said apparatus.

3. (Currently Amended) The improvement of Claim 2, wherein said shape memory alloy is embedded within said shape memory polymer and said second shape memory alloy is embedded within said second shape memory polymer.

4. (Currently Amended) The improvement of Claim 2, wherein said shape memory alloy is positioned within said shape memory polymer and said second shape memory alloy is positioned within said second shape memory polymer.

5. (Currently Amended) The improvement of Claim 2, wherein said coil configuration of said first unit is longitudinally compressed and retained in said shape memory polymer so as to define a hollow tube cylinder with a wall surface and having said coil configuration embedded in said wall surface thereof and said coil configuration of said second unit is longitudinally compressed and retained in said second shape memory polymer so as to define a hollow tube cylinder with a wall surface and having said coil configuration embedded in said wall surface thereof.

6. (Currently Amended) The improvement of Claim 5, wherein said coil configuration of said first unit has an axis coaxial with an axis of said hollow tube cylinder and said coil configuration of said second unit has an axis coaxial with an axis of said hollow tube cylinder.

7. (Withdrawn)

8. (Currently Amended) The improvement of Claim 2, including a plurality of additional structures each having a longitudinally extending coiled configuration of shape memory alloy located within said a shape memory polymer comprising a cylinder.

9. (Original) The improvement of Claim 8, wherein each coil configuration has a different configuration.

10. (Currently Amended) The improvement of Claim 8, wherein said plurality of units structures are in a series configuration to said first structure and said second structure.

11. (Currently Amended) In a device An apparatus for minimally invasive applications, the improvement comprising:

a structure for at least positioning and bending a portion of said device apparatus, said structure having an axis,

said structure including a quantity of shape memory alloy in said portion, and

a quantity of shape memory polymer in said portion,

said quantity of shape memory polymer is a cylinder, and

wherein said quantity of shape memory alloy is wrapped around at least a portion of said shape memory polymer positioned in said structure generally parallel to said axis and spaced from said axis, wherein said portion shape memory alloy is positioned in said device such that changes in transition of said shape memory alloy causes said device apparatus to bend.

12. (Currently Amended) The improvement apparatus of Claim 11, wherein said quantity of shape memory alloy has a ribbon configuration.

13. (Withdrawn)

14. (Currently Amended) The improvement apparatus of Claim 11, wherein said quantity of shape memory alloy is composed of a plurality of shape memory alloy strips.

15. (Currently Amended) The improvement apparatus of Claim 11, wherein said quantity of cylindrical shape memory polymer has a closed cylinder configuration.

16. (Currently Amended) The improvement apparatus of Claim 15, wherein said quantity of shape memory alloy has a ~~closed tubular coiled spring~~ configuration located within said shape memory polymer.

17. (Currently Amended) The improvement apparatus of Claim 15, wherein said quantity of shape memory alloy is composed of a plurality of strips, and wherein said strips are located in a wall surface of said shape polymer.

18. (Currently Amended) The improvement apparatus of Claim 17, wherein said plurality of strips are in said wall surface in a direction selected from the group consisting longitudinal and radial with respect to an axis of said configuration.

19. (Currently Amended) The improvement apparatus of Claim 17, wherein said plurality of strips are in a spaced longitudinal relationship.

20. (Currently Amended) The improvement apparatus of Claim 18, wherein said plurality of strips are located spaced radial relationships.

21. (Currently Amended) The improvement apparatus of Claim 17, wherein said plurality of strips are located in openings in said shape memory polymer.

22. (Currently Amended) The improvement apparatus of Claim 15, wherein said quantity of shape memory alloy is composed of a plurality of sections embedded in said shape memory polymer.

23. (Withdrawn)

24. (Withdrawn)

25. (Withdrawn)

26. (Withdrawn)

27. (Withdrawn)

28. (Currently Amended) The improvement apparatus of Claim 11, wherein said quantity of shape memory alloy has a ~~mesh, tubular coiled spring~~

configuration, wherein said quantity of shape memory polymer is a cylinder and wherein said ~~mesh, tubular~~ coiled spring configuration is embedded in said shape memory polymer.

29. (Withdrawn)

30. (Withdrawn)

31. (Withdrawn)

32. (Currently Amended) The improvement apparatus of Claim 11, comprising a plurality of units each having a coiled configuration of shape memory alloy and a cylindrical configuration of shape memory polymer, said units being connected in series and connected to including a light source connected to said apparatus via a plurality of optical fibers in a catheter and light control mechanism.

33. (Currently Amended) The improvement apparatus of Claim 32, wherein each coiled configuration has a different configuration said light source is a laser.

34. (Currently Amended) An articulated tip for a catheter that has a central axis, comprising

a composite of shape memory alloy forming a portion of said articulated tip with said composite of shape memory alloy having an axis that is offset from said central axis of the articulated tip for a catheter

and shape memory polymer forming a portion of said articulated tip, wherein said shape memory polymer comprises a cylinder, and wherein said portion composite of shape memory alloy is positioned in said articulated tip such that changes in transition of said shape memory alloy causes said articulated tip to bend.

35. (Currently Amended) A device for reversible fine positioning of an object, comprising:

a member constructed of shape memory polymer, wherein said shape memory polymer comprises a cylinder and said cylinder has a cylinder central axis,

said member including a shape memory alloy with a shape memory alloy axis located in or adjacent to said member in a position wherein said shape memory axis is offset from said cylinder central axis that will cause said device to bend upon a change in configuration of said shape memory alloy, and

means for selectively heating said shape memory alloy to cause a change in configuration thereof, whereby the change in configuration results in reversible positioning of said object.